

AMENDMENTS TO THE CLAIMS

Claims 1-15. (Canceled)

Claim 16. (Currently Amended) An optical disk device capable of storing and ejecting an optical disk for recording or reproducing a signal on said optical disk stored therein, comprising:

a main chassis;

a disk tray movable to extend out of and retract into said main chassis for storing and ejecting said optical disk;

a turntable for rotatably supporting said optical disk stored;

a rotatable drive source mechanism for rotatably driving said turntable;

a turntable raising/lowering mechanism for vertically moving said turntable between a lowered position in which interference with said optical disk stored or ejected is avoided and a raised position in which said optical disk stored is supportable;

an optical pickup for recording a signal on said optical disk supported by said turntable or reproducing a signal;

a pickup drive mechanism for reciprocally moving said optical pickup between an inner region and an outer region of said optical disk supported by said turntable;

a dual-purpose drive source mechanism for generating a driving force for said turntable raising/lowering mechanism and said pickup drive mechanism, where said dual-purpose drive source mechanism includes a dual-purpose motor, and a power transmission mechanism including a gear element rotating under a rotatable driving force of said dual-purpose motor;

a first operation switching mechanism for performing a first switching operation for switching a transmission path of said driving force of said dual-purpose drive source mechanism from a path leading to said pickup drive mechanism to a path leading to said turntable raising/lowering mechanism, or vice versa, where said first operation switching mechanism performs said first switching operation by an operation independent of said optical pickup under said driving force of said dual-purpose drive source mechanism; and

a traverse chassis having a pivotal displacement side end portion on one end side thereof and a pivot axis side end portion on the other end side thereof, said pivot axis side end portion being pivotably mounted to said main chassis so that said pivotal displacement side end portion is movable toward and away from said main chassis, said turntable being moved to said raised position by moving said pivotal displacement side end portion toward said main chassis, said turntable being moved to said lowered position by moving said pivotal displacement side end portion away from said main chassis, and where said turntable, said rotatable drive source mechanism, said optical pickup, said dual-purpose drive source mechanism and said first operation switching mechanism are provided on said traverse chassis;

wherein said pickup drive mechanism includes a rack portion provided integrally with said optical pickup for moving said optical pickup under said rotatable driving force of said dual-purpose motor through said gear element;

wherein said first operation switching mechanism includes a slide rack movable under said rotatable driving force of said dual-purpose motor through said gear element, with said rack portion having moved to a position in which said transmission path of said driving force from at least said gear element is interrupted, and performs said first switching operation by moving said slide rack, with said optical pickup placed in a fixed position and where said first operation switching mechanism further includes a trigger plate moving in accordance with the movement of said slide rack; and

wherein said turntable raising/lowering mechanism includes a driven boss provided on said pivotal displacement side end portion of said traverse chassis, and a slider member having a cam groove engageable with the driven boss and provided on the main chassis movably in accordance with the movement of said trigger plate, and where the movement of said slider member in accordance with the movement of said trigger plate causes the driven boss moving in said cam groove to move toward or away from said main chassis, thereby moving said pivotal displacement side end portion of said traverse chassis toward or away from said main chassis.

Claim 17. (Previously Presented) The optical disk device according to claim 16, further comprising:

a disk tray transport mechanism for moving said disk tray to extend out of and retract into said main chassis under the driving force of said dual-purpose drive source mechanism; and

a second operation switching mechanism for performing a second switching operation for switching the transmission path of the driving force of said dual-purpose drive source mechanism from a path leading to said pickup drive mechanism to a path leading to said disk tray transport mechanism, or vice versa,

wherein said main chassis is provided with a tray gear having a first gear portion and a second gear portion and rotatable under the driving force of said dual-purpose drive source mechanism,

wherein said slider member has a slider-specific rack portion meshingly engageable with said first gear portion,

wherein said disk tray transport mechanism has a tray rack portion extending in a direction in which said disk tray is extended and retracted and meshingly engageable with said second gear portion,

wherein said second operation switching mechanism has a tray guide groove and a boss portion, said tray guide groove being provided in said disk tray and including in a continuous fashion a first guide groove extending along a direction orthogonal to said direction in which said disk tray is extended and retracted, a second guide groove angled to said direction in which said disk tray is extended and retracted, and a third guide groove extending along said direction in which said disk tray is extended and retracted, said boss portion being provided on said slider portion and moving in said tray guide groove, and

wherein said first gear portion is in meshing engagement with said slider-specific rack portion and said tray gear rotates to move said slider member during an interval that said boss portion passes through said first guide groove; said disk tray moves to extend or retract under a force of movement of said boss portion in said second guide groove, thereby causing a transition from the meshing engagement between said first gear portion and said slider-specific rack

portion to meshing engagement between said second gear portion and said tray rack portion or vice versa during an interval that said boss portion passes through said second guide groove; and said second gear portion is in meshing engagement with said tray rack portion and said tray gear rotates to move said disk tray to extend and retract during an interval that said boss portion passes through said third guide groove.

Claim 18. (Previously Presented) The optical disk device according to claim 17, wherein said first gear portion has a pitch circle radius smaller than that of said second gear portion.

Claim 19. (Previously Presented) The optical disk device according to claim 18, wherein said first gear portion and said second gear portion are equal in the number of teeth to each other.

Claim 20. (Previously Presented) The optical disk device according to claim 16, wherein said trigger plate has a tooth portion, and wherein the driving force from said dual-purpose drive source mechanism is transmitted through said tooth portion in the course of the movement of said trigger plate.

Claim 21. (Previously Presented) The optical disk device according to claim 20, wherein a speed at which said slider member moves said trigger plate is approximately equal to a speed at which said slider member is moved under the driving force from said dual-purpose drive source mechanism through said tooth portion.

Claim 22. (Previously Presented) The optical disk device according to claim 16, further comprising an urging member for urging said slider member toward one end of a movable range thereof.

Claim 23. (Previously Presented) The optical disk device according to claim 16, wherein said dual-purpose drive source mechanism moves said optical pickup once stored toward the outer region of the optical disk after power is turned on.

Claim 24. (Previously Presented) The optical disk device according to claim 16, wherein said trigger plate has a malfunction prevention wall for abutting against said optical pickup side or said slide rack side to inhibit its own movement prior to the operation of placing said optical pickup in the inner region of the optical disk and the operation of switching the transmission path of the driving force of said dual-purpose drive source mechanism from the path leading to said pickup drive mechanism to the path leading to said turntable raising/lowering mechanism.

Claim 25. (Previously Presented) The optical disk device according to claim 16, wherein a first detector for detecting whether or not said disk tray is in an extended position based on a position to which said slider member is moved, and a second detector for detecting a position to which said optical pickup is moved are provided on said traverse chassis side.

Claim 26. (Previously Presented) The optical disk device according to claim 25, wherein said traverse chassis is provided with a relay substrate, and wherein said first detector and said second detector are provided on said relay substrate.